REMARKS

Claims 1-5, 14-20, 23, and 25-43 were pending in the application. By this paper, Applicant has cancelled Claims 23, 35, and 41 without prejudice, amended Claims 1, 2, 14, 17, 20, 37, 38, 39, 40, 42, and 43, and added new claims 44-52. Accordingly, Claims 1-5, 14-20, 25-32, 37-40, and 42-52 are presented herein for examination.

Applicant again thanks the Examiner for the very thorough and detailed analysis and Office Action. After careful evaluation thereof, Applicant provides the following remarks.

Objections

Per Par. 3 of the Office Action, Claims 1 and 17 have been amended to clarify the claimed invention(s) as requested by the Examiner. Applicant submits that these amendments overcome the objections.

Rejections under §112

Per Par. 9 of the Office Action, Claims 37-40 have been amended to further clarify the terms "base" and eliminate the term "basecase." While Applicant believes this later term to be well supported an generally known to those of skill in the art (see attached exemplary webpage from Assignee with annotations), it has none-the-less revised the language to more clearly reflect the recited base instruction set and "extensions", the latter which may comprise any number of different functionalities. For example, page 14, lines 22-25 of the incorporated 09/418,663 specification as filed states:

> *"For example, extensions within the ARC system may include rotate, arithmetic and logical shifts within the barrel shifter, small multi-cycle multiply, MAC function, swap function (for swapping upper and lower bytes), timer interrupt, and the like."* {Emphasis added}

Applicant notes that at the time of filing of the present application, extensible architectures such as that described in 09/418,663 had become commonplace and were well known in the art. Accordingly, Applicant respectfully submits that no further clarification is required.

Rejections Under 35 U.S.C. §102

Claims 1-5, 14-18, 20, 23, 25, 29, 35 and 41-43 were rejected under 35 U.S.C. §102 as being anticipated by U.S. 4,755,966 to Lee et al. ("Lee"); see Pars. 11-28 of the Office Action.

Claims 1 and 14 – Independent Claims 1 and 14 have been amended herein to include limitations relating to the recited user-configurable and user-definable modes each being specified by the same ones of the plurality of data bits, the at least one user-definable mode not being predetermined in terms of function. As discussed in Pars. 41-42 of the Office Action (pages 26-27), Applicant has attempted to further clarify the distinction between "user-configurable" and "user-definable" in the context of the inventions of Claims 1 and 14. Specifically, the user-definable mode is not predetermined in its underlying (logical) function, but rather left to the user/programmer to define. The Examiner's attention is directed to, e.g., Table 1 and page 11, lines 18-19 of the specification as filed, wherein the supporting text states:

> *"The fourth mode ("11") of Table 1 may be used for other jump mode or non-jump mode functions as desired, thereby affording the programmer even further flexibility"* {emphasis added}

Contrast this with the invention of Lee (and the other so-called "user-configurable" modes), which are each predetermined in terms of functionality; i.e., the programmer has no choice or capability to define or specify underlying logical relationships associated with the user-configurable bits that are set. For these other modes, the user can merely configure the bits to produce a predetermined response (or set of responses). Applicant's inventions of Claims 1 and 14, however, allows the user/programmer to define the underlying logical functions of the e.g., fourth ("11") mode, as well as ultimately configure these two bits so as to invoke this fourth

mode or not invoke this fourth mode. Applicant respectfully submits that Lee in no way teaches or suggests providing the user/programmer with the ability to add additional modes "freeform" as in the recited inventions of Claims 1 and 14. Hence, amended Claims 1 and 14 cannot be anticipated by Lee as a matter of law.

Claim 17 – Independent Claim 17 has been amended herein to include limitations relating to the recited user-configurable branch instruction having a plurality of unique functional modes exclusively associated with respective ones of unique combinations of a plurality of mode control bits. Applicant notes that support for this amendment is shown at, *inter alia*, Table 1, page 10, and Table 3, page 12, of Applicant's specification as filed. Specifically, the illustrated functional modes of Table 1 (two bit) and Table 3 (three bit) are all unique and are exclusively associated with respective unique combinations of the mode bits (note that "reserved " or user-definable combinations of bits are not functional modes, but rather non-allowed entries until such time as they are defined, and when defined, will obey the exclusivity relationship due to imposed constraints; i.e., are not repetitive of other modes and the user cannot make them repetitive).

Applicant respectfully submits that Lee in no way teaches or suggests providing unique functional modes exclusively associated with respective ones of unique combinations of a plurality of mode control bits as in the recited invention of Claim 17. Rather, by virtue of a "null" bit and "displacement sign" bit, Lee creates a "don't care" mode. Specifically, when the nullify bit of Lee is set "off", the delay slot instruction will be executed, irrespective of the value of the displacement sign bit. This is most clearly shown in the left portion of Fig. 3 of Lee. Stated differently, a "0/0" (null/sign) in Lee will produce an identical result to a "0/1", also irrespective of whether the branch was taken or not. Contrast Applicant's claimed invention, wherein a unique function(al mode) is associated with each different combination of mode bits.

Hence, amended Claim 17 cannot be anticipated by Lee as a matter of law.

Claim 20 –Independent Claim 17 has been amended herein to include limitations relating to assigning a plurality of jump modes to at least two of the recited data bits of the branch instruction(s) such that changing of any one or more of the data bits will always specify a different functional mode. Applicant notes that support for this amendment is shown at, *inter alia*, Table 1, page 10, and Table 3, page 12, of Applicant's specification as filed. As previously discussed with respect to Claim 17, the modes defined by each unique combination of bits in the invention of Claims 17 and 20 herein are also each unique. Hence, any change of one or more bits will always result in a different mode. Contrast Lee, wherein "00" and "01" for nullify and displacement sign bits, respectively produces an identical function. Hence, amended Claim 20 cannot be anticipated by Lee as a matter of law.

Claims 23, 35, and 41 – Applicant has by this paper cancelled independent Claims 23, 35, and 41 without prejudice, thereby rendering the §102 rejection moot.

Rejections Under 35 U.S.C. §103

Per Pars. 29-39 of the Office Action, dependent Claims 19, 26-28, 30-32, and independent Claims 37-40 stand rejected under 35 U.S.C. §103 over various art. Based on the foregoing discussions of the independent claims from which Claims 19, 26-28, and 30-32 depend, Applicant submits that the §103 rejections are rendered moot, since a dependent claim cannot be obvious under the law when it depends from a non-obvious and non-anticipated claim.

Regarding Claims 37-40, Applicant provides the following remarks.

Claims 37 and 40 - By this paper, Applicant has amended Claim 37 to include limitations relating to each of the designated modes being constrained to only one of a plurality of unique combinations of the mode bits. As discussed above with respect to Claims 17 and 20, Lee does not teach or suggest such functionality, but rather discloses only the case where at least two mode bit combinations produce the same functional mode. Accordingly, Applicant submits

that not only does Lee not teach the newly recited functionality of Claim 37, but also teaches away from combination with one or more other references to produce Applicant's invention of Claim 37. Specifically, as shown in Fig. 3 of Lee, the functionality must allow the "bypass" (left branch of Fig. 3 flow diagram) based on the nullify bit being off, otherwise, the processor of Less would not function properly. Hence, to combine Lee with any other reference which might teach unique modes for unique bit combinations would completely frustrate the "nullify" functionality of Lee, which is the essence of the definition of "teaching away".

Hence, Applicant submits that Claim 37 as amended herein cannot be rendered obvious by combination of Lee with any other reference.

Claim 40 has been amended to include limitations wherein each of the modes provides unique functionality with respect to the other three modes. For generally similar reasons to those presented for Claim 37, Applicant submits that Claim 40 is neither anticipated nor obvious over Lee or any other art of record.

Claim 38 - By this paper, Applicant has amended Claim 38 to include limitations relating to execution being controlled without regard to a branch direction metric. As discussed above with respect to Claim 37, the invention of Lee necessarily considers the direction of the branch displacement (as reflected by sign bit) in its determination of execution of the delay slot. Lee's invention simply cannot function if it does not consider this value. Contrast Applicant's claimed invention, wherein the execution is determined based on mode bits which bear no relation to the direction of branch displacement (or any other metric). Lee does not teach or suggest Applicant's functionality, and in fact teaches away, since as stated Lee must necessarily consider the branch direction bit.

Hence, Applicant submits that Claim 38 as amended herein cannot be rendered obvious by combination of Lee with any other reference.

Claim 39 - By this paper, Applicant has amended Claim 39 to include limitations relating to the particular combinations of data bits and the logical functions associated therewith

being adapted for assignment by a user. As discussed above with respect to Claims 1 and 14, the invention of Lee does not teach or suggest such functionality, but rather teaches only predetermined/pre-programmed logical functions which are selected by the user's choice of two bits.

Hence, Applicant submits that Claim 39 as amended herein cannot be rendered obvious by combination of Lee with any other reference.

New Claims

By this paper, Applicant has added new independent Claims 49, 50, 51, and 52, which correspond generally to existing Claims 14, 20, 17, and 17 respectively. These new claims have various limitations which Applicant believes distinguishes them over Lee and the other art of record.

Summary

In sum, Applicant respectfully submits that all pending independent claims now define patentable subject matter and are in condition for allowance. Furthermore, all claims depending directly or indirectly therefrom are also allowable. Accordingly, Applicant requests that the case be passed to issuance.

Applicant hereby specifically reserves the right to prosecute claims of different or broader scope, including those cancelled without prejudice herein, in a continuation or divisional application, as well as its rights of appeal.

Applicant notes that any cancellations or additions made herein are made solely for the purposes of more clearly and particularly describing and claiming the invention, and not for purposes of overcoming art or for reasons relating to patentability unless otherwise stated. The Examiner should infer no (i) adoption of a position with respect to patentability, (ii) change in the Applicant's position with respect to any claim or subject matter of the invention, or (iii) acquiescence in any way to any position taken by the Examiner, based on such cancellations or additions.

If the Examiner has any questions or comments which may be resolved over the telephone, he is requested to call the undersigned at (858) 675-1670.

Respectfully submitted,

GAZDZINSKI & ASSOCIATES

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